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The Patent Office
Concept House
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South Wales
NP10 8QQ

REC'D 21 NOV 2000

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The Patent Office

Cardiff Road
Newport
South Wales
NP10 8QQ

1. Your reference

- 6 JUN 2000

ADJUSTABLE SAFETY CABLE.

2. Patent application number
(The Patent Office will fill)

0013595.4

06JUN00 E542319-1 C56247
P01/7700 0.00-0013595.4

3. Full name, address and postcode of the or of each applicant (underline all surnames)

STEPHEN MURTEN.

THE LYMES OFF OLD YORK ROAD SKELTON DONCASTER, S/YORK.
DN6 8LN

Patents ADP number (if you know it)

If the applicant is a corporate body, give the country/state of its incorporation

7759152001

4. Title of the invention

ADJUSTABLE SAFETY CABLE

5. Name of your agent (if you have one)

N/A.

"Address for service" in the United Kingdom to which all correspondence should be sent (including the postcode)

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ATKINSON BARRINGTON
24-29 PRESIDENT BUILDINGS
PRESIDENT WAY (FS1/44)
SHEFFIELD S1 7UR (29/9/00)

Patents ADP number (if you know it)

7807043001

6. If you are declaring priority from one or more earlier patent applications, give the country and the date of filing of the or of each of these earlier applications and (if you know it) the or each application number

Country

Priority application number
(if you know it)

Date of filing
(day / month / year)

UK

GB9923976.6

12.10.99

7. If this application is divided or otherwise derived from an earlier UK application, give the number and the filing date of the earlier application

Number of earlier application

Date of filing
(day / month / year)

8. Is a statement of inventorship and of right to grant of a patent required in support of this request? (Answer 'Yes' if:

- a) any applicant named in part 3 is not an inventor, or
- b) there is an inventor who is not named as an applicant, or
- c) any named applicant is a corporate body.

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Continuation sheets of this form

Description 2

Claim(s) 2

Abstract 1

Drawing(s) 4 + 4

8 ✓

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Priority documents

Translations of priority documents

Statement of inventorship and right to grant of a patent (Patents Form 7/77)

Request for preliminary examination and search (Patents Form 9/77)

1 with cheque for £130.00

Request for substantive examination (Patents Form 10/77)

Any other documents (please specify)

1 LETTER, CORRECTING POST CODE D06 8LA TO D06 8LN

11.

I/we request the grant of a patent on the basis of this application.

Signature G. Norton

Date 5th June 80

12. Name and daytime telephone number of person to contact in the United Kingdom

STEPHEN NORTON
01302 722438

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ADJUSTABLE SAFETY CABLE

This invention relates to an adjustable safety cable.

Safety cables are used throughout the building, leisure and petro chemical industries, for clipping onto, to give protection against falls.

However to give temporary access to the building and petro chemical industries, safety cables are used simply by fastening both ends to the solid structure.

This however is not suitable for scaffolding, as no solid structure has been built prior to requiring the safety cable. Thus the need for an adjustable safety cable.

According to the present invention there is provided an adjustable safety cable comprising of an adjustable cable. Two or more hollow adjustable uprights, each upright comprises of one or more hollow lengths of material that can be displaced one inside the other. Thus allowing the uprights to be raised or lowered.

The safety cable travels up from the lower part of one or more uprights, to a predetermined height where it crosses the required distance and comes into contact with the second upright set at the same predetermined height. The safety cable can be fastened at contact point or allowed to travel to the lower part of the upright to be fastened off.

The uprights are raised and lowered using cables and pulleys or compatible methods. The uprights are supported to the structure, using base, intermediate and top brackets.

A specific embodiment of the invention will now be described by way of example with reference to the accompanying drawings in which: -

Figure 1 shows both uprights joined together by the adjustable safety cable and their raising and lowering mechanisms.

Figure 2 shows both uprights in an over expanded position and with additional equipment.

Figure 3 illustrates both uprights in use.

Figure 4 shows the clamping brackets.

Referring to the drawings the adjustable safety cable comprises a pair of base sections 11 and a pair of upper sections 12. The upper sections 12 can be displaced inside the base sections 11 to form "a" adjustable upright 20. A cable 19 is taken from the base of one upright 20 travels over pulleys 13 to the base of the second upright 20. The cable is secured to the base 11 by a winch 26 or for example a catch, keep, cable grab or equivalent devices (not shown). The safety cable 19 can be secured at contact point 24 without travelling down to the base if required.

In order to install the uprights 20 for example to a structure 15 or equivalent (not shown) both uprights 20 are placed at the required distance apart. They are connected to the structure 15 by multi-purpose brackets 14 fitted with clamping devices 35 and back plates 39 or equivalent devices (not shown). Thus securing both uprights 20 to the structure 15. Existing brackets (not shown) are fitted with back plates 39 thus allowing existing brackets (not shown) to join with the brackets 14 so as to be able to connect differing types of structures to the uprights 20.

Both ends of the adjustable safety cable 19 are secured. The cable 19 can be fitted with an energy absorber 27 if required this can be installed inside the upper section 12 or connected to connection point 24 thus helping to absorb any kinetic energy produced by falls. In addition brackets 14 can be fitted with springs 38 or alternative device (not shown) also helping to absorb any kinetic energy produced by falls.

In order to raise the uprights 20 in the direction of the arrow 21 or lower in the direction of the arrow 22, positive only or positive then negative pressure is applied to ropes, cables 16 and 18. Thus lifting or lowering the upper sections 12 support pin 23 along the guide vein 17 rising and lowering the upper section 12 and the base section 11. To secure the upper section 12 at the required height, rope jammers 33 and brackets 14 fitted with clamping device 35 or for example, pins, clamps or similar means (not shown) are used to clamp the upper section 12 to the structure 15 thus allowing the base section 11 to be raised.

As the base section 11 is raised, by pulling on rope 18, its base support bracket 31 can be put into position thus allowing the base section 11 to be able to rest on the structure 15. The base support bracket 31 can be hinged 34 and spring 30 operated thus ensuring correct operation. By alternatively operating the ropes 16 and 18 the uprights can climb up or down the structure 15 or alternative structure (not shown).

A harness (not shown) along with inertia reel 36 or alternative device (not shown) is connected to the cable 19 by pulley 37 or similar device (not shown) a cable stop (not shown) can be fitted to this device to stop movement along the cable after a fall.

To remove the uprights 20 from the structure the steps described above are carried out in reverse sequence.

Internal strengtheners 28 can be installed to strengthen the upper sections 12.

A cable movement stop device 29 can be fitted to the cable 19 so as to prevent cable movement in the event of a fall, thus restricting fall distance. The cable movement stop 29 can be locked into position by bolts 32 once the uprights 20 are in their closed position. Connection points 25 are provided to enable other uprights (not shown) to connect to, via their cables 19 (not shown) and for connecting equipment (not shown) to. If required the pulleys 13 and their housing (not shown) can be made bigger than the upper section 12 so as to increase the radius of the bends in the cable 19, thus preventing damage to the cable. A guy wire (not shown) can be fitted to the uprights 20 for strengthening purpose.

CLAIMS

1 A adjustable safety cable comprising of "a" adjustable cable. Two or more hollow adjustable uprights, each upright comprises of one or more hollow lengths of material that can be displaced one inside the other. Thus allowing the uprights to be raised or lowered.

The safety cable travels up from the lower part of one or more uprights, to a predetermined height where it crosses a required distance and comes into contact with another upright set at the same predetermined height. The safety cable can be fastened at contact point or allowed to travel to the lower part of the upright to be fastened off.

The uprights are raised and lowered using cables and pulleys or compatible methods. The uprights are connected to any structure-using base, intermediate and top brackets.

2 A adjustable safety cable in claim 1 wherein strengthening means are provided inside the hollow sections.

3 A adjustable safety cable in Claim 1 or Claim 2 wherein the brackets are removable and may be energy absorbing and fitted with clamps and back plates.

4 A adjustable safety cable in Claim 1 or Claim 2 or Claim 3 wherein a winch or brackets or inertia reel or rope grab or alternative device is used to fasten the ends of the safety cable to.

5 A adjustable safety cable in Claim 1 or Claim 2 or Claim 3 or Claim 4 wherein lanyards or safety devices and harnesses are connected to the safety cable to arrest a fall.

6 A adjustable safety cable in Claim 1 or Claim 2 or Claim 3 or Claim 4 or Claim 5 wherein internal pulleys or compatible device are fitted and they and there housing are made larger then the uprights that they are part of, if required.

7 A adjustable safety cable in Claim 1 or Claim 2 or Claim 3 or Claim 4 or Claim 5 or Claim 6 wherein a cable movement stop is fitted to the safety cable.

8 A adjustable safety cable in Claim 1 or Claim 2 or Claim 3 or Claim 4 or Claim 5 or Claim 6 or Claim 7 wherein four or more adjustable uprights are used in a square or rectangular format with or without a moveable connecting connector between the safety cables.

9 A adjustable safety cable in Claim 1 or Claim 2 or Claim 3 or Claim 4 or Claim 5 or Claim 6 or Claim 7 or claim 8 wherein an energy absorber is fitted internally or externally.

10 A adjustable safety cable in Claim 1 or Claim 2 or Claim 3 or Claim 4 or Claim 5 or Claim 6 or Claim 7 or claim 8 or claim 9 wherein base supports are hinged with or without springs or similar devices.

CLAIMS

- 11 A adjustable safety cable in Claim 1 or Claim 2 or Claim 3 or Claim 4 or Claim 5 or Claim 6 or Claim 7 or claim 8 or claim 9 or claim 10 wherein lanyards or inertia reels are connected to the safety cable by, pulley to cable connectors, fitted with or without cable grabs.
- 12 A adjustable safety cable in Claim 1 or Claim 2 or Claim 3 or Claim 4 or Claim 5 or Claim 6 or Claim 7 or claim 8 or claim 9 or claim 10 or 11 wherein rope jammers or grabs are fitted to the raising and lowering ropes.
- 13 A adjustable safety cable in Claim 1 or Claim 2 or Claim 3 or Claim 4 or Claim 5 or Claim 6 or Claim 7 or claim 8 or claim 9 or claim 10 or claim 11 or claim 12 wherein guy ropes are connected to the uprights.
- 14 A adjustable safety cable in Claim 1 or Claim 2 or Claim 3 or Claim 4 or Claim 5 or Claim 6 or Claim 7 or claim 8 or claim 9 or claim 10 or claim 11 or claim 12 or claim 13 wherein additional connection points are fitted around the uprights.
- 15 A adjustable safety cable in Claim 1 or Claim 2 or Claim 3 or Claim 4 or Claim 5 or Claim 6 or Claim 7 or claim 8 or claim 9 or claim 10 or claim 11 or claim 12 or claim 13 or claim 14 wherein the safety cable travels externally or internally from the top of the uprights to the base.
- 16 A adjustable safety cable in Claim 1 or Claim 2 or Claim 3 or Claim 4 or Claim 5 or Claim 6 or Claim 7 or claim 8 or claim 9 or claim 10 or claim 11 or claim 12 or claim 13 or claim 14 or claim 15 wherein an alternative material, to a cable is used to span the uprights.
- 17 Substantially as described herein with reference to figure 1-4 of the accompanying drawings.

ABSTRACT

ADJUSTABLE SAFETY CABLE

"A" adjustable safety cable, e.g. a cable that can be adjusted in length as well as height has a cable 19 that passes between two or more adjustable uprights 20 connecting at either contact point 24 of cable and upright 20 or travelling down towards the base of the uprights 20 to be made secure.

The ends of the cable can be fastened to the uprights 20, the working structure 15 by winch type mechanism, cable drum or recoil system 26. The uprights 20 are raised or lowered by rope and pulley mechanisms 16 and 18.

The uprights 20 are placed around the working structure 15 with the cable 19 passing between them.

Base support bracket 31 and intermediate brackets 14 with clamps 35 may be fitted to enable installation to the structures 15. Operatives are connected to the safety cable 19 thus arresting falls.

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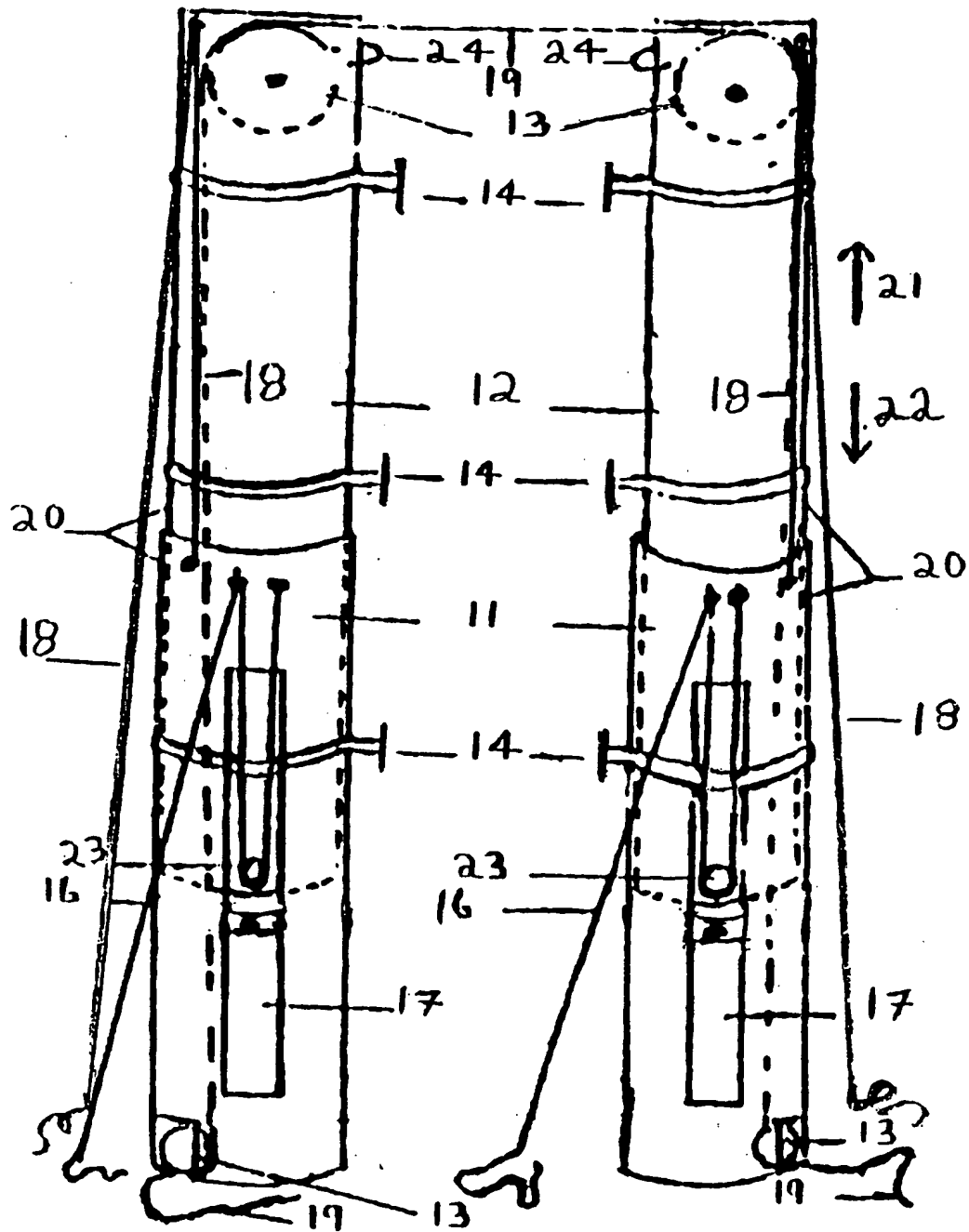


Fig 1

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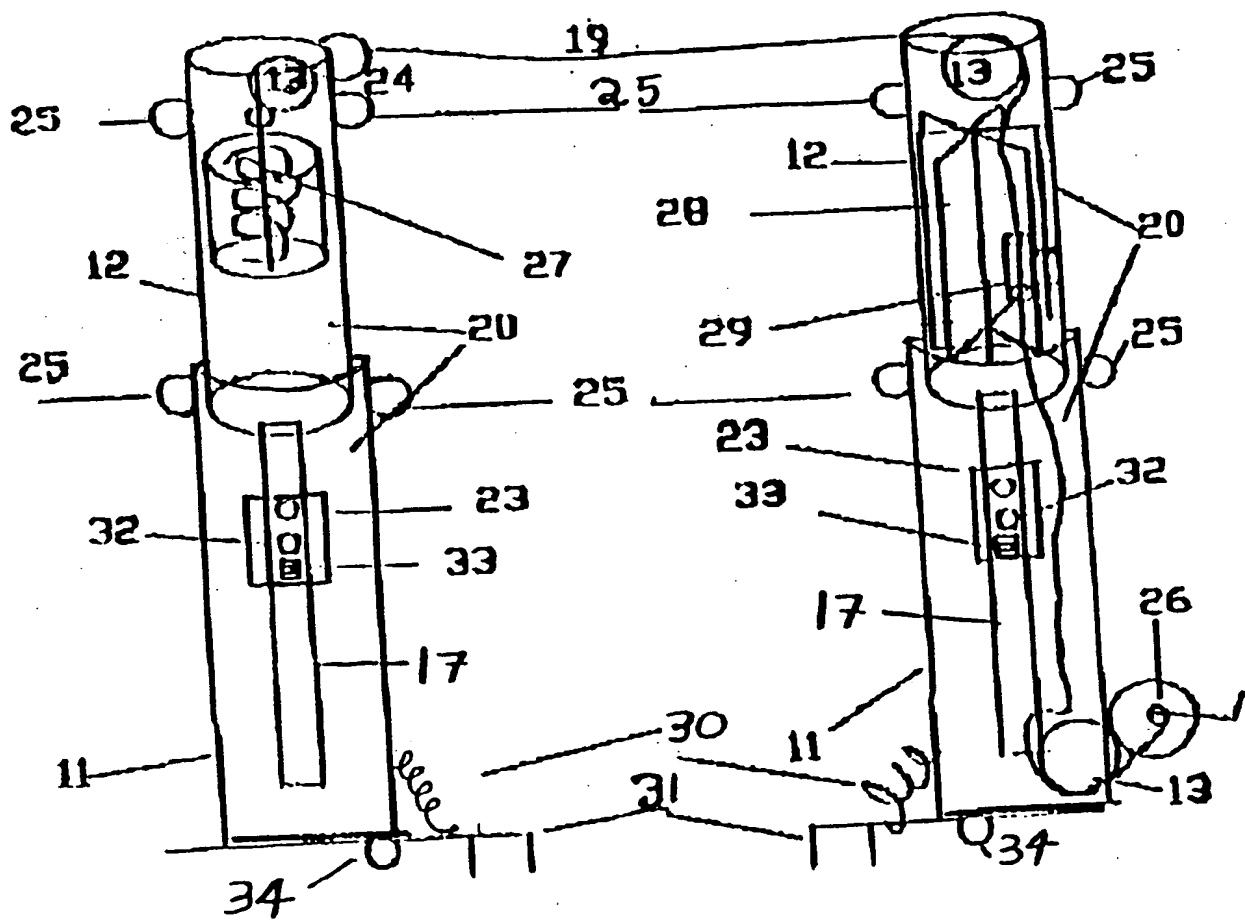


Fig 2

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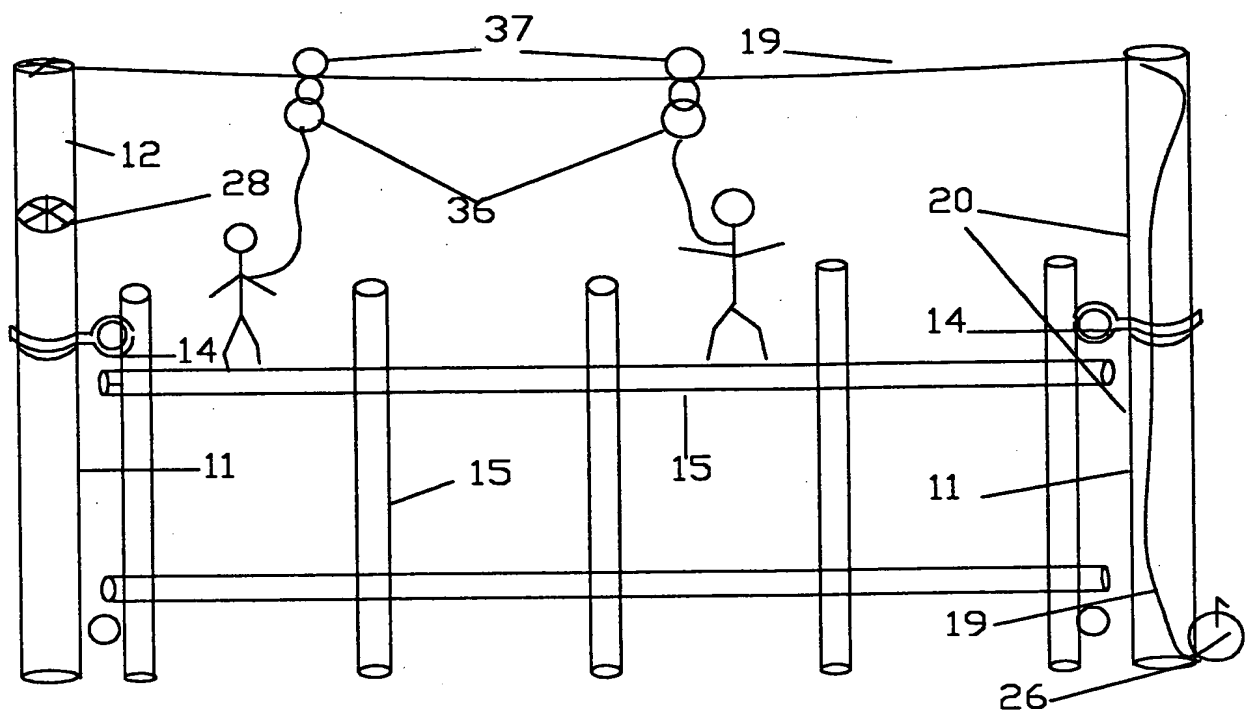


fig 3

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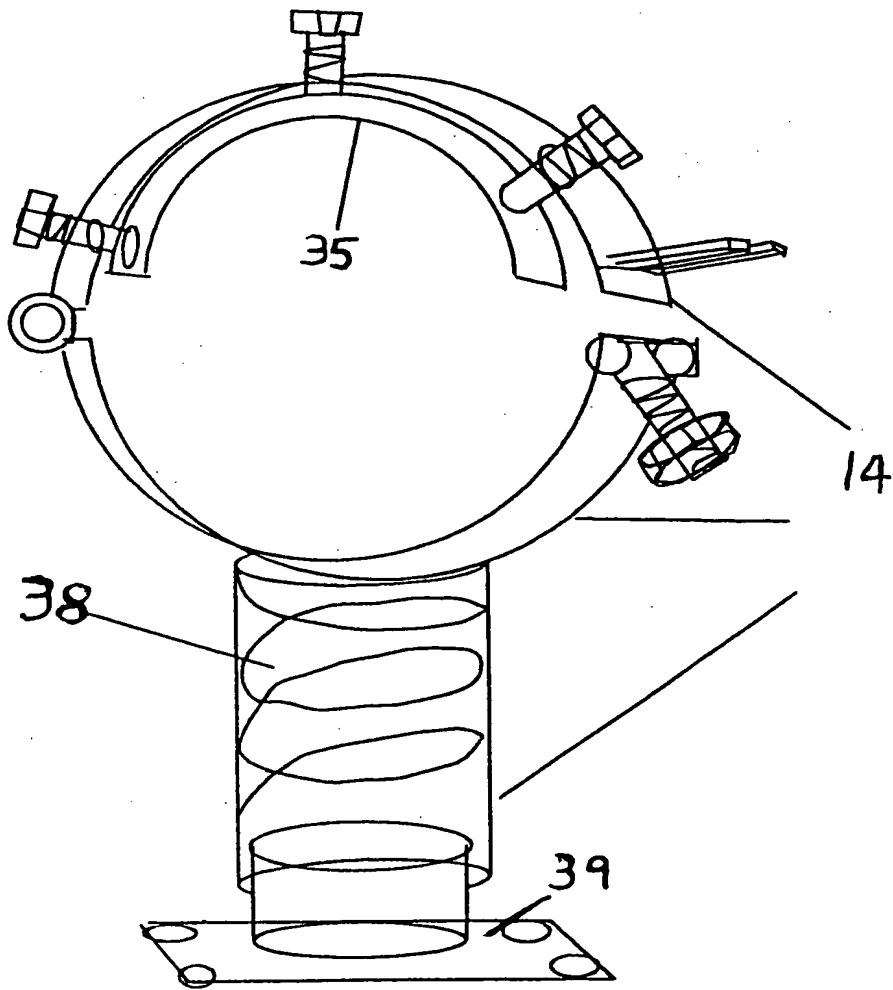


Fig 4